

Technical Direction (TD)

TSWAP Contract

EP-C-17-046

Task Order 1

PWS Task(s): Task 2, TMDL Development
Task 7, Model Application

Title: *Water Quality Modeling and TMDL Development for the Deschutes River, Percival Creek and Budd Inlet Tributaries*

Date of Technical Direction Discussion or Issuance: July 2018

Estimated Level of Effort: XX hours

Purpose: Provide technical and modeling support for the revision of state-developed TMDLs for multiple parameters in the Deschutes River.

Background, Tasks, Deliverables and Schedule:

Background

There is currently a multi-phase process to address water quality impairments for waters flowing into South Puget Sound. The Deschutes River originates in heavily forested regions of the Bald Hills and flows northward to Capitol Lake, which then flows to Budd Inlet, which connects to Puget Sound. Capitol Lake was formed in 1951 as an impoundment of the Deschutes estuary to create a reflecting pool for the State Capitol building. The Washington Department of Ecology ('Ecology') developed the Deschutes TMDL to address the riverine segments upstream of Capitol Lake and Budd Inlet. The watershed covered in the Deschutes TMDL includes the Deschutes River, Percival Creek, and tributaries to Budd Inlet. It is situated within the boundaries of Thurston and Lewis Counties in Washington and includes the cities or towns of Olympia, Lacey, Tumwater, and Rainier. The TMDL was written to address impairments for bacteria, temperature, dissolved oxygen (DO), pH, and fine sediment. Ecology submitted the TMDL to EPA in 2015, and provided supplemental information in 2017.

EPA took a partial approval and partial disapproval action on the TMDL (comprised of 73 unique waterbody-pollutant pairs) on June 29, 2018. The disapproved portions, listed below, will need to be revised and established by EPA.

- Bacteria – 17 pairs (14 of which only need to go through public participation process)
- Temperature – 5 pairs
- DO – 11 pairs
- pH – 3 pairs
- Fine sediment – 1 pair

Ecology is currently developing a TMDL for Budd Inlet. (b) (5)

Phase 1

Tasks

1. The Contractor will set up two initial planning conference calls. The first conference call will include representatives from EPA and the Contractor to discuss the project background, scope, goals, schedule, and projected outcomes and outputs. The goal of the first call will be to provide the Contractor with enough information to begin working on the tasks outlined in this technical direction. The second planning call will include representatives from EPA, Ecology, and the Contractor. The purpose of this call will be to learn from Ecology about their work on the Budd Inlet TMDL, and any areas of concern or overlap that we should be aware of in the development of the Deschutes TMDL. Both of these calls will establish a schedule for regular check-in calls with two teams: (1) EPA and the Contractor; and (2) EPA, Ecology, and the Contractor. All contact information is listed below. The Contractor will put together notes from the call summarizing key points, outcomes, and action items.
2. The Contractor will set up regular check-in calls, as described in Task #1. The frequency of the calls will be determined during the initial planning calls. The purpose of the calls with EPA and Ecology will be to check-in on concurrent progress being made on the modeling for the Budd Inlet TMDL and the Deschutes TMDL, share input/output files and model results, and resolve any technical concerns. The check-in calls with EPA will be to discuss draft products, have more in-depth discussions on areas needing more focus, and resolve technical concerns. The Contractor will put together notes from each call summarizing key points, outcomes, and action items.
3. The Contractor will set up a file transfer site for participants to upload data and information.
4. The Contractor will develop a draft TMDL technical approach memorandum. It will include a summary of relevant data and information and recommended approach(s) to revise the existing QUAL2k model and how those data will be used in the updates to the models. The memorandum should provide recommendations regarding the cost and value of updating the model, based on the TMDL revision needs. It should also include the approach that will be used to revise the disapproved segments of the TMDL (i.e. how the loading capacity and wasteload and load allocations will be determined). The Contractor will address a maximum of one set of comments from EPA and finalize the technical approach memorandum.

Phase 2 (tentative)

5. The Contractor will use the existing base steady-state QUAL2k model (already calibrated) as a starting point for developing new TMDL loading capacities, load allocations, and wasteload allocations. The Contractor should prepare a summary of the model outputs, including tables, figures, and other relevant outputs that document the application of the model and the TMDL loading analyses. The Contractor should provide this summary as an appendix to the TMDL, which will undergo public review along with the TMDL. The Contractor should be prepared to provide EPA with any requested model input/output data and/or an organized model package upon EPA's request. The Contractor will address a maximum of two sets of comments from EPA and finalize the modeling analysis summary. The updates to the model will include the following:

(b) (5)



(b) (5)

6. The Contractor will revise the existing TMDL document, updating the relevant information and writing sections where there was TMDL information missing. (b) (5)

Deliverables and Schedule

Task	Deliverable
1 & 2. Kick-off conference call and check-in calls	Call notes summarizing key points, outcomes, and action items
3. File transfer site	A site that can be viewed and used

	by EPA, Ecology, and the Contactor to share files.
4. Technical approach memorandum	Draft and final technical approach memorandum, including a tracked version to show how comments were addressed.
5. QUAL2k modeling	Summary of updated model results and outputs as an appendix to TMDL document.
6. TMDL report	Revised TMDL document. Response to comments document, as an appendix to the TMDL document.

As the EPA Task Order Contract Officer Representative (TOCOR), I have considered the sensitivity of any information generated by this TD. The following applies:

☒ I have no reason to believe that any sensitive information will be generated as part of this TD

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☒ This TD does not include additional work outside the scope of the task order.

☒ This TD will not cause an increase or decrease in the estimated cost of the task order.

Contact Information:

EPA TOCOR

Jayne Carlin
US EPA, Region 10
1200 6th Ave, Suite 900 (OWW-134)
Seattle, WA 98101-3140
carlin.jayne@epa.gov
(206) 553-8512

EPA Technical Contacts

Miranda Hodgkiss – Lead on TMDL development
US EPA, Region 10
1200 6th Ave, Suite 900 (OWW-192)
Seattle, WA 98101-3140
hodgkiss.miranda@epa.gov
(206) 553-0692

Chris Zell (or Ben?) – Lead on modeling analysis

US EPA, Region 10
1200 6th Ave, Suite 900 (OWW-192)
Seattle, WA 98101-3140
zell.christopher@epa.gov
(206) 553-1353

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